USGS
science for a changing world

Mineral Industry Surveys

For information, contact:
Michael J. Magyar, Vanadium Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4964, Fax: (703) 648-7757
E-mail: mmagyar@usgs.gov

Subina W. Pandey (Data)
Telephone: (703) 648-7966
Fax: (703) 648-7975
E-mail: spandey@usgs.gov

Internet: http://minerals.usgs.gov/minerals

VANADIUM IN JANUARY 2006

Reported domestic consumption of vanadium in January 2006 was slightly less than that of the previous month and was about 5% less than that of January 2005, according to the U.S. Geological Survey. Consumer stocks of vanadium, in all forms, were 361 metric tons (t) at the beginning of 2006 and 394 t at the end of January.

According to Ryan's Notes (2006b), U.S. ferrovanadium (FeV) prices ranged from $19.444 to $20.222 per pound of vanadium content in January, as compared with $21.083 to $22.167 in December. European FeV prices ranged from $36.222 to $38.222 per kilogram in January, as compared with $43.056 to $45.000 in December. Vanadium pentoxide (V_2O_5) prices ranged from $8.250 to $8.856 per pound in January as compared with $8.917 to $9.722 in December.

Stratcor Inc. reported the first shipment of vanadium-halide catalysts from its new plant in Hot Springs, AR. In October 2005, Stratcor announced plans to consolidate all its vanadium production operations at the Hot Springs facility. Its former vanadium-halide plant in Niagara Falls, NY, was expected to close in February 2006. In addition to vanadium-halides, the Hot Springs facility will continue to produce high-purity V_2O_5, vanadium trioxide, and ammonium metavanadate, which are used to produce vanadium chemicals, ferrovanadium, and vanadium-aluminum alloys (Ryan's Notes, 2006a).

Aurox Resources Limited (Perth, Australia) announced the results of a bankable feasibility study on the Balla Balla vanadium-titanium-iron ore project in Western Australia. The study identified a resource said to be the largest and highest-grade vanadium deposit in Australia, with reserves at 53.9 million metric tons at a grade of 0.73% V_2O_5. The production rate was projected to be 4,100 metric tons per year of contained vanadium over a mine life of 25 to 30 years (Platts Metals Week, 2006).

References Cited

Platts Metals Week, 2006, Aurox finds record vanadium reserve: Platts Metals Week, v. 77, no. 4, January 23, p. 15.
Ryan's Notes, 2006a, Stratcor made the first vanadium-halide catalyst: Ryan's Notes, v. 12, no. 4, January 23, p. 4.
Ryan's Notes, 2006b, [untitled]: Ryan's Notes, v. 12, no. 6, February 6, p. 10.

TABLE 1

U.S. CONSUMPTION AND CONSUMER STOCKS OF VANADIUM, BY FORM[1]

(Kilograms, contained vanadium)

	2005				2006	
	January-December		December		January	
	Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovanadium[2]	3,430,000	335,000	277,000	335,000	274,000	374,000
Vanadium-aluminum alloy	W	W	W	W	W	W
Other[3]	260,000	25,700	24,500	25,700	21,200	20,500
Total	3,690,000	361,000	301,000	361,000	295,000	394,000

W Withheld to avoid disclosing company proprietary data; included with "Other."

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes other vanadium-iron-carbon alloys as well as vanadium oxides added directly to steel.

[3]Includes other vanadium alloys, vanadium metal, vanadium pentoxide, vanadates, chlorides, other specialty chemicals, and items indicated by symbol W.

TABLE 2

U.S. CONSUMPTION OF VANADIUM, BY END USE[1]

(Kilograms, contained vanadium)

	2005		2006
	January-December	December	January
Steel:			
Carbon	902,000	81,100 r	64,600
High-strength low-alloy	1,060,000	89,900 r	90,500
Stainless and heat-resisting	59,900	5,080	5,080
Full alloy	1,000,000	76,800 r	90,500
Tool	401,000	23,600	23,000
Total steel	3,430,000	276,000 r	274,000
Superalloys	9,610	836	645
Miscellaneous and unspecified[2]	253,000	24,000	20,700
Total consumption	3,690,000	301,000	295,000

[r]Revised.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes cast irons, alloys excluding steel and superalloys, chemical and ceramic uses, and other miscellaneous and unspecified uses.

TABLE 3
U.S. IMPORTS AND EXPORTS OF ALUMINUM-VANADIUM MASTER ALLOY AND VANADIUM METAL, INCLUDING WASTE AND SCRAP[1]

(Kilograms, gross weight)

	Aluminum-vanadium master alloy		Vanadium metal, including waste and scrap	
	Quantity	Value	Quantity	Value
Imports for consumption:				
2004	19,100	$66,700	31,200	$1,710,000
2005:				
October	1	6,620	96	56,800
November	1,000	2,370	--	--
December:				
Germany	--	--	10,200	603,000
Russia	--	--	5,530	762,000
United Kingdom	8	2,740	--	--
Total	8	2,740	15,800	1,360,000
Year to date[2]	1,010	15,500	54,800	3,800,000
Exports:				
2004	10,900,000	24,000,000	522,000	7,760,000
2005:				
October	1,080,000	2,680,000	31,200	1,190,000
November	2,010,000	5,270,000	5,150	275,000
December:				
Australia	1,100	4,950	--	--
Austria	--	--	3,720	91,300
Canada	146,000	506,000	92	2,650
Germany	--	--	78	119,000
India	2,380	12,300	--	--
Italy	1,510	7,850	--	--
Japan	107,000	1,350,000	6,500	334,000
Malaysia	2,800	26,000	--	--
Mexico	1,520,000	3,790,000	--	--
Spain	1,960	24,000	--	--
Switzerland	906	11,300	--	--
Thailand	18,900	86,400	--	--
Taiwan	10,100	46,900	--	--
United Kingdom	5,490	30,900	18,200	921,000
Total	1,810,000	5,900,000	28,500	1,470,000
Year to date	14,100,000	42,000,000	293,000	1,640,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revisions to previous months' data.

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS AND EXPORTS OF FERROVANADIUM, VANADIUM PENTOXIDE (ANHYDRIDE) AND OTHER OXIDES AND HYDROXIDES OF VANADIUM[1]

(Kilograms, contained vanadium)

	Ferrovanadium		Vanadium pentoxide (anhydride)[2]		Other oxides and hydroxides of vanadium	
	Quantity	Value	Quantity	Value	Quantity	Value
Imports for consumption:						
2004	3,020,000	$62,100,000	1,040,000	$8,600,000	120,000	$1,650,000
2005:						
October	248,000	10,300,000	204,000	5,710,000	53,200	1,080,000
November	89,700	5,130,000	66,900	2,480,000	6,910	386,000
December:						
Austria	--	--	4,160	160,000	6,940	450,000
Canada	20,900	1,730,000	--	--	--	--
China	--	--	17,000	778,000	--	--
Czech Republic	146,000	7,780,000	--	--	--	--
Germany	--	--	76	7,450	--	--
Japan	2,320	105,000	--	--	--	--
Russia	--	--	18,600	449,000	--	--
South Africa	--	--	143,000	4,790,000	23,700	466,000
Sweden	400	16,900	--	--	--	--
Total	170,000	9,630,000	182,000	6,180,000	30,600	916,000
Year to date[3]	12,000,000	131,000,000	1,410,000	52,900,000	213,000	6,540,000
Exports:						
2004	267,000	8,770,000	240,000	2,090,000	584,000	4,140,000
2005:						
October	70,500	2,700,000	50,600	1,080,000	21,500	219,000
November	18,900	701,000	18,100	584,000	113,000	1,130,000
December:						
Australia	170	8,450	--	--	--	--
Brazil	--	--	--	--	2,740	38,700
Canada	35,600	752,000	--	--	38,400	342,000
Germany	--	--	1,800	22,000	--	--
Japan	--	--	--	--	708	6,300
Mexico	7,270	351,000	--	--	--	--
Netherlands	1,550	51,800	--	--	--	--
Russia	--	--	2,680	84,400	30,900	546,000
Total	44,600	1,160,000	4,480	106,000	72,800	933,000
Year to date	500,000	19,100,000	247,000	5,340,000	822,000	14,500,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include catalysts containing vanadium pentoxide.

[3]May include revisions to previous months' data.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF VANADIUM-BEARING ASH, SLAG[1]

(Kilograms, contained vanadium pentoxide)

	Ash and residues		Ash and residues (not from the manufacture of iron and steel)		Slag, from the manufacture of iron and steel	
	Quantity	Value	Quantity	Value	Quantity	Value
2004	4,260,000	$8,520,000	11,100,000	$2,000,000	244,000,000	$10,400,000
2005:						
October	618,000	1,440,000	702,000	108,000	51,300,000	1,240,000
November	244,000	590,000	497,000	66,800	44,200,000	480,000
December:						
Canada	--	--	410,000	87,700	60,900,000	1,440,000
Mexico	240,000	597,000	--	--	--	--
Total	240,000	597,000	410,000	87,700	60,900,000	1,440,000
Year to date[2]	4,360,000	9,820,000	6,850,000	1,100,000	542,000,000	11,400,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revisions to previous months' data.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF MISCELLANEOUS VANADIUM CHEMICALS[1]

(Kilograms, contained vanadium)

	Sulfates		Vanadates	
	Quantity	Value	Quantity	Value
2004	500	$19,100	74,700	$1,150,000
2005:				
October	--	--	9,050	29,200
November	--	--	6,630	296,000
December:				
Germany	--	--	26	22,400
Russia	--	--	4	2,640
South Africa	35,000	77,000	8,550	300,000
Total	35,000	77,000	8,580	325,000
Year to date[2]	35,000	77,000	91,700	2,800,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revisions to previous months' data.

Source: U.S. Census Bureau.